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## SCIENTIFIC EVENTS

## CHARLES LEANDER DOOLITTLE

As an expression of sorrow over the death of Professor Charles L. Doolittle, the college faculty of the University of Pennsylvania recently passed the following resolutions:

The college faculty learns with profound grief of the death of their colleague, Professor Charles Leander Doolittle, who has been associated with them since 1895, at first as professor of mathematics and astronomy, and since 1899, when these departments were separated, as professor of astronomy, until his retirement from active duty in 1912.

Professor Doolittle's position in the world of astronomy was a distinguished one, and not only this university but the scientific world at large has by his death sustained a great loss.

As a colleague, Professor Doolittle was ever ready to bear his part in helping to solve the perplexing problems which naturally arise in conducting the affairs of a great university, and by his wisdom to assist in reaching such conclusions as would further the best interests of students and institution.

In deploring the loss of a helpful counsellor and a genial friend, the members of the college faculty desire to extend to Professor Doolittle's family their sincere sympathy. They also direct that this record of their action be entered on the minutes and that it be inserted in the appropriate university publications.

EDWIN S. CRAWLEY,  
HENRY BROWN EVANS,  
SAMUEL G. BARTON,

*Committee of the College Faculty*

## AIRPLANE FUEL

DURING the war the Bureau of Mines, Department of the Interior, made strenuous efforts to find a special fuel for airplanes that would be superior to others already in use. Of the numerous products and mixtures obtained some were originated by the bureau engineers and chemists, others were suggestions by outside interests. Through its own experiments or by cooperation with other organizations, notably the research division of the Dayton Metal Products Co., and the Bureau of Standards, it was possible to establish the fact that certain types of fuels had elements of superior-

ity that had not before been noted or appreciated. Of the fuels proving most satisfactory, gasoline refined from the crude petroleum of certain producing fields was distinctly superior to the type most extensively used. The blending of moderate proportions of benzol with gasoline was found to be distinctly advantageous, and motor fuel of this type would undoubtedly have been employed for military purposes if the war had continued much longer. It is believed that through the proper use of benzol and other distillates derived from coal it may be possible to embody features in the design of internal combustion motors that will notably increase their efficiency. Benzol and other coal-derived fuels are already being sold for use in automobiles and are believed to be giving satisfactory results even with present types of motors.

The bureau was particularly interested in a special fuel tested in cooperation with the Dayton organization and named "hector." This fuel, which was a mixture of cyclohexane, and benzol, gave indications of marked superiority over any other product tested and should, unless unforeseen deficiencies appear, prove ideal for the military aviation service. In some experimental flights this fuel has given 10 miles an hour more speed. It is not certain that the cost of production will ever be low enough to permit its use in peace times, but it is planned to complete the work of obtaining comprehensive information regarding all of its possibilities and to publish reports on the subject in cooperation with the engineers of the research division of the Dayton Metal Products Co.

## NATIONAL RESEARCH FELLOWSHIPS IN PHYSICS AND CHEMISTRY SUPPORTED BY THE ROCKEFELLER FOUNDATION

THE National Research Council has been entrusted by the Rockefeller Foundation with the expenditure of an appropriation of \$500,000 within a period of five years for promoting fundamental research in physics and chemistry in educational institutions in the United States.

The primary feature of the project is the

initiation and maintenance of a system of National Research Fellowships, which are to be awarded by the National Research Council to persons who have demonstrated a high order of ability in research, for the purpose of enabling them to conduct investigations at educational institutions which make adequate provision for effective prosecution of research in physics or chemistry. The plan will include such supplementary features as may promote the broad purpose of the project and increase its efficiency.

Among the important results which are expected to follow from the execution of the plan may be mentioned:

1. Opening of a scientific career to a larger number of able investigators and their more thorough training in research, thus meeting an urgent need of our universities and industries.
2. Increase of knowledge in regard to the fundamental principles of physics and chemistry, upon which the progress of all the sciences and the development of industry depend.
3. Creation of more favorable conditions for research in the educational institutions of this country.

The project will be administered by the research fellowship board of the National Research Council. This board consists of six members appointed for terms of five years and of the chairmen *ex officio* of the Division of Physical Science and the Division of Chemistry and Chemical Technology of the National Research Council. The members of the board are:

- Henry A. Bumstead, professor of physics, Yale University.  
Simon Flexner, director of the Laboratories of the Rockefeller Institute for Medical Research.  
George E. Hale, director of Mount Wilson Observatory.  
Elmer P. Kohler, professor of chemistry, Harvard University.  
Robert A. Millikan, professor of physics, University of Chicago.  
Arthur A. Noyes, director of the Research Laboratory of Physical Chemistry, Massachusetts Institute of Technology.  
Wilder D. Bancroft, professor of physical chemistry, Cornell University, chairman of the Di-

vision of Chemistry and Chemical Technology.  
—— — ———, chairman of the Division of Physical Science.

The appointments of national research fellows will be made only after careful consideration of the scientific attainments of all candidates, not only of those who apply on their own initiative, but also of those who are brought to the attention of the research fellowship board by professors in educational institutions and by other investigators throughout the country.

The research fellowships will for the most part be awarded to persons who have had training at an American university or scientific school equivalent to that represented by the doctor's degree. The salary will ordinarily be \$1,500 for the first year. The research fellowship board will not, however, be bound by rigid rules of procedure. Thus it may offer larger salaries to those of exceptional attainment or wider experience, and may give appointments to competent investigators who have had training other than that represented by the doctor's degree.

The research fellows will be appointed for one year; but they will be eligible for successive reappointments, ordinarily with increases of salary.

It is expected that fifteen to twenty research fellowships will be available during the coming year, and that the number will be increased in subsequent years.

Applications for the fellowships should be made on the form provided for the purpose, and should be sent to the secretary of the research fellowship board, National Research Council, 1023 Sixteenth Street, Washington, D. C. Applications will be received up to September 1, 1919, for fellowships available during the next academic year; but a limited number of appointments will be made on the basis of the applications received before April 20, 1919.

#### SCIENTIFIC NOTES AND NEWS

COLONEL E. LESTER JONES, after service in the Army for about a year in America and France has returned to his duties as head of the Coast and Geodetic Survey.